Executive Summary

ES.1 Results from the Supplemental Alternatives Analysis

This March 2011 Palmdale to Los Angeles Supplemental Alternatives Analysis (AA) report updates the Preliminary AA Report the California High-Speed Rail Authority (Authority) issued for the Palmdale to Los Angeles high-speed train (HST) section in July 2010.

This Supplemental AA has been prepared to document additional evaluation, development and refinement of design options, recommending alternatives between LAUS and Sylmar to be further studied through the environmental process and presenting current studies between Sylmar and Palmdale. Further analysis between Sylmar and Palmdale is required before further recommendations are made.

These developments include the following:

Los Angeles Union Station (LAUS) to Metrolink Central Maintenance Facility (CMF)

- Alternative LAPT1: By increasing the gradient and adjusting the layout of the tracks approaching LAUS, bored tunnel construction can be used under Los Angeles State Historic Park (LASHP) avoiding sensitive subsurface cultural resources and temporary surface impacts to the park during construction.
- Alternative LAPT2: Alternative LAPT3 has been refined and is now compatible with the elevated LAUS along with LAPT2. LAPT2 is no longer recommended to be carried forward as it has greater impacts and slower journey times than LAPT3.
- Alternative LAPT3: By increasing the gradient and adjusting the layout of the tracks approaching LAUS, alternative LAPT3 is now compatible with the elevated LAUS option and has a bored tunnel under the Los Angeles State Historic Park.
- Alternative LAP1C: Alternative LAP1C is unchanged from the Preliminary AA and is recommended to be carried forward.

Metrolink CMF to SR 2

- Following comments from stakeholders, a variation of the tunnel alternatives was considered. The bored tunnel would be extended under Rio de Los Angeles State Park (RDLASP) and the new high school, emerging into trench north of the school and rising to pass through the SR2 bridge at-grade.
- Following further discussions with existing train operators and the California Department of Parks and Recreation (State Parks), the at-grade option on the Metrolink alignment, not carried forward in the Preliminary AA, was re-evaluated and is recommended to be carried forward in preference to the trench alignments along the Metrolink alignment or along San Fernando Road.

SR 2 to Sylmar

- The seismic risk associated with the Verdugo Fault has restricted the profile options between Burbank Bob Hope Airport and San Fernando to an at-grade alignment which would give the quickest service recovery time should a major seismic event occur.
- As requested by the Authority Board, a station located in downtown Burbank, at the location of the Burbank Metrolink station, was evaluated in more detail. A non-standard layout to bring the tracks closer to the existing right-of-way, reducing some of the impacts illustrated in the Preliminary AA report, was considered. As a result of the remaining impacts of this station location on the

surrounding area and the need to reconstruct the existing bridges over the alignment, this alternative is not recommended to be carried forward for evaluation in the EIR/EIS.

- The seismic risk associated with the Verdugo Fault, the impacts on the new development south of SR 118 and the construction challenges and visual impact associated with the elevated Pacoima Wash station result in this alternative no longer being recommended to be carried forward. Extensive adverse impacts on adjacent freeways and intersections mean that an alternative 'at-grade' Pacoima Wash option is not recommended to be carried forward.

Sylmar to Palmdale

- The SR 14 East alignment was refined to mitigate impacts on the proposed Vasquez High School development and the existing High Desert School in Acton. The SR 14 West alignment is unchanged from the Preliminary AA. Comments and suggestions received through stakeholder and community outreach continue to be evaluated.
- The seismic risk associated with the San Gabriel fault led to a further investigation of alignment options in the Santa Clarita area.

ES.2 Community Outreach

Since the release of the Preliminary Alternatives Analysis (Preliminary AA) on July 8, 2010, the project team has met with elected officials and staff, key stakeholders and the public in the cities of Los Angeles, Glendale, Burbank, San Fernando, Santa Clarita, and Palmdale and the Towns of Acton and Agua Dulce, and has held community open houses in the cities of Palmdale, Burbank, Santa Clarita and downtown Los Angeles for the general public to review and comment on the alignment alternatives and station location options released in the Preliminary AA.

ES.3 Recommendations

The staff makes the following recommendations to the Board. These recommendations are summarized in Table ES-1 and, along with the recommendations carried forward unchanged from the Preliminary AA, are illustrated on Figure ES-1:

LAUS to Metrolink CMF

- Carry forward alternative LAPT1
- Do not carry forward alternative LAPT2
- Carry forward alternative LAPT3
- Carry forward alternative LAP1C

Metrolink CMF to SR 2

- Carry forward Metrolink Alignment at-grade with alignment LAP1C
- Do not carry forward Metrolink Alignment in trench
- Do not carry forward San Fernando Road Alignment in trench
- Carry forward Tunnel alignment with alignments LAPT1 and LAPT3

SR2 to Sylmar Subsection – Station alternatives

- Do not carry forward Burbank Metrolink Station
- Carry forward Burbank Buena Vista Station

- Carry forward Branford Street Station
- Do not carry forward Pacoima Wash Station
- Carry forward San Fernando Station

Sylmar to Palmdale

- Continue to coordinate with stakeholders and communities to work toward addressing concerns, in order to refine the alignment proposals to be carried forward for full environmental study.

Figure ES-1 Alignment and Station Alternatives

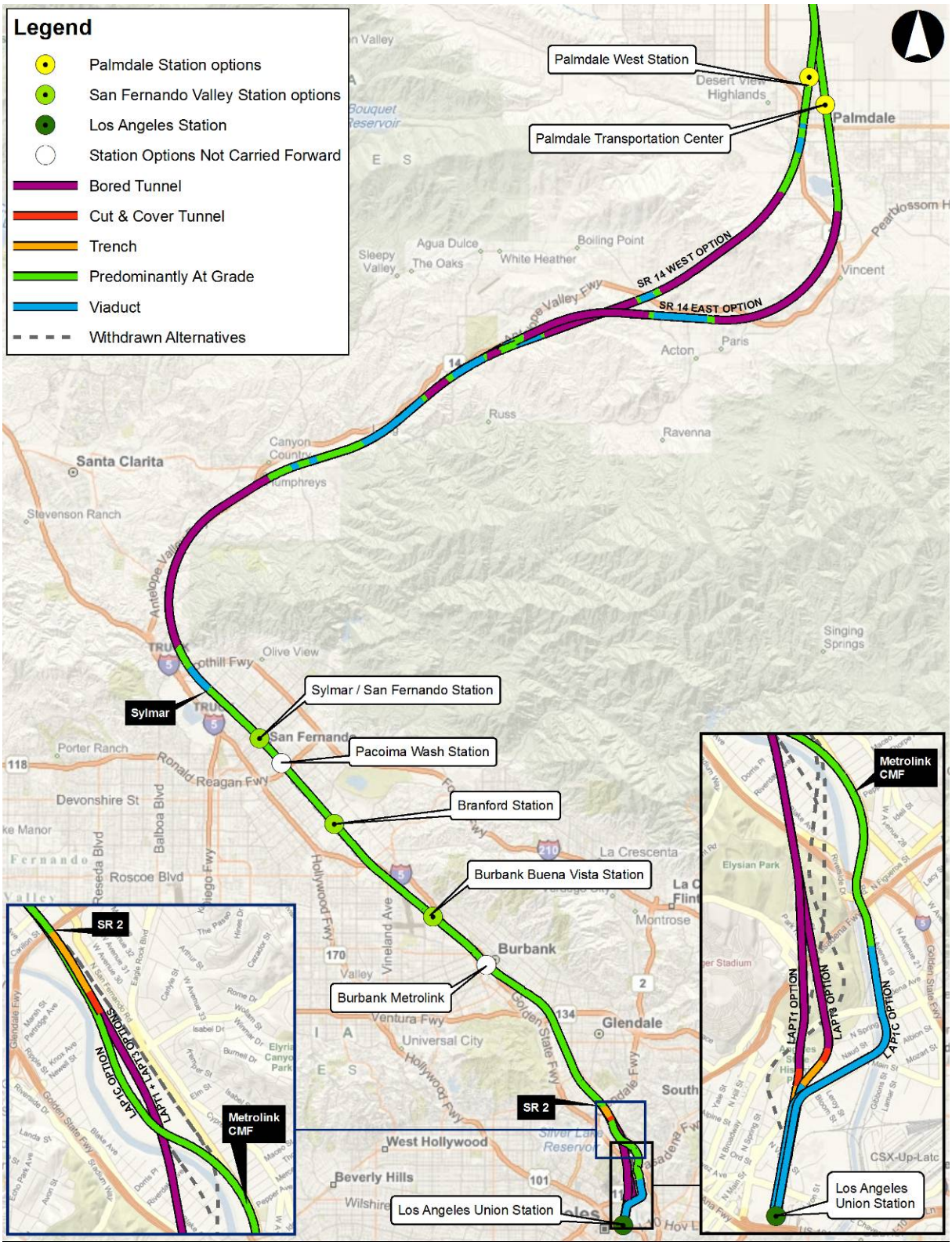

Table ES-1 Alternatives Evaluation Summary

ALIGNMENT ALTERNATIVE/STATION LOCATION AND DESIGN OPTIONS	AA DECISION		REASONS FOR ELIMINATION (P–Primary S–Secondary)							ENVIRONMENTAL/OTHER CONCERNS
	Carried Forward	Not Carried Forward	Construction	Incompatibility	Right-of-Way	Connectivity/ Accessibility	Revenue/ Ridership	Community Impact	Environment	
LAUS to Metrolink CMF										
LAPT1	X									Only compatible with at-grade LAUS; Business displacements; Residential/business/institutional subsurface easements; Construction costs.
LAPT2		X	S	S	P			S		Runs alongside LASHP on viaduct; Business displacements; Incompatible with Gold Line/Midway yards development; Residential/business/institutional subsurface easements; Visual resources; Construction complexity, impacts and costs; local opposition.
LAP3	X									Adjacent to LASHP; Business/institutional displacements; Low speed curves leaving Union Station; Residential/business/institutional subsurface easements; Construction costs
LAP1C	X									Residential/business/institutional displacements; Cultural and visual resources; Low speed curves leaving Union Station.

ALIGNMENT ALTERNATIVE/STATION LOCATION AND DESIGN OPTIONS	AA DECISION		REASONS FOR ELIMINATION (P–Primary S–Secondary)							ENVIRONMENTAL/OTHER CONCERNS
	Carried Forward	Not Carried Forward	Construction	Incompatibility	Right-of-Way	Connectivity/ Accessibility	Revenue/ Ridership	Community Impact	Environment	
Metrolink CMF to SR 2										
Metrolink Alignment, At-grade	X									Only compatible with LAP1C alternative; Reduced design speed. Connectivity between the Rio de Los Angeles State Park and the Los Angeles River can be mitigated with subways; Impact to existing railroad; Visual impact; Business displacements.
Metrolink Alignment, in Trench		X				P		S		Reduced design speed; Connectivity between RDLASP and the Los Angeles River; Impact to existing railroad; Business displacements.
San Fernando Road Alignment, in Trench		X	S					S	P	Impact on Rio de Los Angeles State Park; Business displacements; Impact to Central Region High School No. 13.
Tunnel alternative	X									Only compatible with LAPT1 and LAPT3; Construction cost; Business displacements;
SR 2 to Sylmar										
Station Alternatives (for a Single HST Station in San Fernando Valley)										
Burbank Metrolink Station		X	P	S	P			P		Freeway connectivity; Residential/business displacements; Noise and vibration; Constructability; Construction cost.
Burbank Buena Vista Alternative BVS	X									Business displacements; Traffic impacts and freeway connectivity; Noise and vibration; Hazardous materials.
Branford Alternative BSS	X									Adjacent water recharge ponds; Business displacements; Biological resources; Hazardous materials.

ALIGNMENT ALTERNATIVE/STATION LOCATION AND DESIGN OPTIONS	AA DECISION		REASONS FOR ELIMINATION (P–Primary S–Secondary)							ENVIRONMENTAL/OTHER CONCERNS
	Carried Forward	Not Carried Forward	Construction	Incompatibility	Right-of-Way	Connectivity/ Accessibility	Revenue/ Ridership	Community Impact	Environment	
Pacoima Wash Alternative PWS		X	P			S		P		Elevated (60 feet above ground) station with long span bridge over freeway extending into Verdugo fault hazard zone, or major impacts on freeway from at-grade station; Business displacements; Visual resources; Noise and vibration; Construction cost.
Sylmar/San Fernando Alternative SFS	X									Station outside Metro right-of-way to comply with design criteria; Constrained TOD potential; Business displacements. Cultural resources; Noise and vibration.